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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,024	07/31/2001	Harunori Hirao	4296-144	3715

7590 09/24/2002

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EXAMINER

OH, TAYLOR V

ART UNIT PAPER NUMBER

1625

DATE MAILED: 09/24/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

<b>Application No.</b> 09/919,024	<b>Applicant(s)</b> HIRAO ET AL.	
<b>Examiner</b> Taylor Victor Oh	<b>Art Unit</b> 1625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 29 March 2002.
- 2a)  This action is **FINAL**.
- 2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-4 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-4 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on 31 July 2001 is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All b)  Some \* c)  None of:
    - 1.  Certified copies of the priority documents have been received.
    - 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - 3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* See the attached detailed Office action for a list of the certified copies not received.
- 14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a)  The translation of the foreign language provisional application has been received.
- 15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other:

***Claim Rejections - 35 USC § 112***

Claim 1-2 ,and 4 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for propane, propylene, acrolein, isobutylene, mathacrolein as a raw material, does not reasonably provide enablement for all the raw material in the chemical field. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to all the raw material unrelated to the invention commensurate in scope with these claims.

According to the specification, the raw materials enabled for the oxidation reaction in the current invention are propane, propylene, acrolein, isobutylene, and mathacrolein ,not all the raw materials in the chemical field. An appropriate correction is required.

because the specification, while being enabling for a shell and tube reactor, as a a reactor, does not reasonably provide enablement for all the reactors in the chemical field. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to all the reactors unrelated to the invention commensurate in scope with these claims.

According to the specification, the reactor enabled for the oxidation reaction in the current invention is the shell and tube reactor , not all the reactors in the chemical field. An appropriate correction is required.

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Claims 1 –2, and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the claims, “ a raw material” , “ the concentration of raw material is less than the concentration of the lower explosion limit of the said raw material ” and “the concentration of oxygen is not less than the limiting oxygen concentration” are written. However, the claims do not specify what the raw material is , what concentration of the raw material is less than the concentration of the lower explosion limit of the said raw material ,and what concentration of oxygen is less than the limiting oxygen concentration . They are all vague and indefinite. An appropriate correction is required.

In addition, in claim 4, “of said raw material” is written. The space of the claim languages are too close together. An appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.


Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated clearly by Takada et al (U.S. 4,203,906).


Takada et al disclose a catalytic vapor phase oxidation process by using a fixed-bed shell and tube heat exchange type reactor (see col. 2 ,lines 42-45) in which an propylene is oxidized into acrylic acid; for example, in the reactor , a reaction gas mixture , comprising 7.0% by volume of propylene, 12.6 5 by volume of oxygen, 10.0 % by volume of steam and balance of inert nitrogen gas, was treated to yield acrylic acid (see col. 10 , lines 1-30). This is identical with the claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 703-305-0809. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alan Rotman can be reached on 703-308-4698. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-2742 for regular communications and 703-305-7401 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

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September 23, 2002

  
**ALAN L. ROTMAN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1600**